

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: March 28, 1996
Date Received: March 21, 1996
Project: % of HNO₃, PO #M52693
Date Samples Extracted: March 25, 1996
Date Extracts Analyzed: March 25, 1996

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES
FOR IRON**

USING METHOD 6010

Samples Processed Using Method 3005A
Results Reported as mg/L (ppm)

<u>Sample ID</u>	<u>Iron</u>
M52693 A Large Tank	18,000
M52693 B Small Tank	22,000
Method Blank	<5

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: March 28, 1996

Date Received: March 21, 1996

Project: % of HNO₃, PO #M52693**QUALITY ASSURANCE RESULTS
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)**

Laboratory Code: 67340 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>	<u>Acceptance Criteria</u>
Iron	mg/L (ppm)	22,000	22,000	0	0-20

Laboratory Code: Spike Blank

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
			<u>MS</u>	<u>MSD</u>		
Iron	mg/L (ppm)	100	110	107	80-120	3

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Date of Report: March 28, 1996

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Date Extracts Analyzed: March 27, 1996

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES
FOR SPECIFIC GRAVITY
@ 15.56 °C**

<u>Sample ID</u>	<u>Specific Gravity</u>
M52693 A Large Tank	1.13
M52693 B Small Tank	1.14

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Date Received: March 21, 1996

Project: % of HNO₃, PO #M52693

**QUALITY ASSURANCE RESULTS
FOR SPECIFIC GRAVITY
@ 15.56 °C**

Laboratory Code: 67341 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>
Specific Gravity	@ 15.56° C	1.13	1.13	0

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Project: % of HNO₃, PO #M52693

Date Extracts Analyzed: March 27, 1996

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES
FOR % ACID**

Results Reported as % Acid by Volume

<u>Sample ID</u>	<u>% HNO₃</u>
M52693 A Large Tank	7.1
M52693 B Small Tank	5.6

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**QUALITY ASSURANCE RESULTS
FOR % ACID BY VOLUME**

Laboratory Code: 67341 (Duplicate)

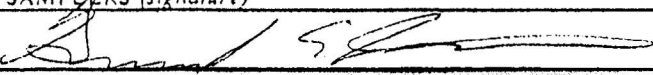
<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>
Acid	% by Volume	7.1	7.0	1

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

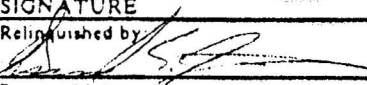
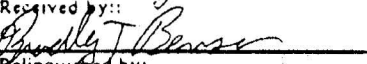
52174
KJ AI

SAMPLE CHAIN OF CUSTODY

Send Report To: Alaskan Copper Works Contact: Gerald Thompson
Company: 625 Henderson
Address: Seattle WA 9817-1
City, State, Zip: 206 282-8335 Date: 3-21-96

SITE NO.	PROJECT NAME	PURCHASE ORDER #
7258	% of HNO ₃	M 52693
SAMPLERS (signature)		PROJECT LOCATION
		3200 6th Ave S
REMARKS		SAMPLE DISPOSAL INFORMATION
		<input type="checkbox"/> Dispose after 30 days <input checked="" type="checkbox"/> Return Samples <input type="checkbox"/> Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
M52693 A	1100pm 3/21	HNO ₃	1	67341	% of HNO ₃ / S.G. / FE
Large tank					
M52693 B	1000pm 3/21	HNO ₃	1	67340	% of HNO ₃ / S.G. / FE
Small Tank					

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: 	Gerald Thompson	A.C. W.	3/21/96	1:50pm
Received by: 	Bradley T. Benson	FBI Inc	3/21/96	1:30pm
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

March 28, 1996

**INVOICE #96ACU0328-1
DUPLICATE COPY**

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project % of HNO₃, PO #M52693: Results of testing requested by Gerry Thompson, Project Manager for material submitted on March 21, 1996.

2 process water samples analyzed for Iron using Method 6010 @ \$35 per sample	\$ 70.00
2 process water samples analyzed for Specific Gravity @ \$25 per sample	50.00
2 process water samples analyzed for % Acid using Method 8015 @ \$25 per sample	<u>50.00</u>
Amount Due	\$ 170.00

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

March 28, 1996

Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on March 21, 1996 from your % of HNO₃, PO #M52693 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson
Chemist

keh
Enclosures
FAX: 382-7335
ACU0328R.DOC